

AMENDMENTS TO THE CLAIMS

Claims 1-11. Canceled.

12. (Currently amended) A method of determining a line pattern or space between adjacent line patterns arranged as a plurality of line patterns on a sample, the method comprising the steps of:

scanning a portion including an edge of a line pattern on the sample with a charged particle beam;

forming a derivative waveform based on a profile waveform formed by detecting charged particles emitted from the scanned portion of the sample;

acquiring, with respect to a derivative waveform for a single peak of a profile waveform corresponding to one edge, a first distance between a top ~~and a foot portion~~ of a first peak of a pair of peaks that the derivative waveform has and a foot portion of the first peak, and a second distance between a top of a second peak and a foot portion of ~~[[a]] the second peak of the derivative waveform~~;

judging the longer of the first and second distances on both sides of the single peak of the profile waveform to correspond to a line pattern, or the shorter of the first and second distances on both sides of the single peak of the profile waveform to correspond to a space between the line patterns, based on a comparison between the first distance and the second distance;

adjusting, based on a judgment result of line pattern or space between adjacent line patterns from the judging step, a position of an image in such a manner that a position of a portion of the image to be measured is brought to a position that has been set for measuring a pattern size;
and

measuring the portion of the image to be measured that has been position adjusted; and

skipping the measuring of pattern size of the portion to be measured of the scanned portion in the event of an error wherein no judgment result of line pattern or space between the adjacent line patterns is obtained.

13. (Previously presented) The method of determining a line pattern or a space between adjacent line patterns arranged in plural line patterns on a sample according to claim 12, wherein widths of the line pattern and the space between the line patterns are substantially equal.

14. (Currently amended) A method of determining a line convex pattern or a space concave pattern between adjacent line patterns arranged as a plurality of line patterns on a sample, the method comprising the steps of:

scanning a portion including an edge of a line pattern on the sample including a plurality of convex and/or concave patterns formed thereon with a charged particle beam;

forming a derivative waveform based on a profile waveform formed by detecting charged particles emitted from the scanned portion of the sample;

acquiring, with respect to a derivative waveform for a single peak of a profile waveform corresponding to one edge, a first distance between a top and a foot portion of a first peak of the derivative waveform among a pair of peaks that the derivative waveform has, and a second distance between a top and a foot portion of a second peak of the derivative waveform;

judging the longer of the first and second distances, which corresponds to a convex pattern on one of two sides of the single peak of the profile waveform to correspond to a line pattern, or the shorter of the first and second distances, which corresponds to a concave pattern on one of the two sides to correspond to a space between adjacent line patterns, based on a comparison between the first distance and the second distance;

adjusting, based on a judgment result of convex line pattern or concave pattern space between adjacent line patterns from the judging step, a position of an image in such a manner that a position of a portion of the image to be measured is brought to a position that has been set for measuring a pattern size; and

measuring the portion of the image to be measured that has been position adjusted; and skipping the measuring of pattern size of the portion to be measured of the scanned portion in the event of an error wherein no judgment result of convex pattern or concave pattern between the adjacent line patterns is obtained.

15. (Currently amended) the method of determining a ~~line~~ convex pattern or a ~~space~~ concave pattern between adjacent line patterns on a sample according to claim 14, wherein each of the first and second distances corresponds to a distance (interval) between zero (flat line) and a peak position of ~~[[one]]~~ each of a pair of positive and negative peaks of the derivative waveform, the pair of positive and negative peaks being generated in correspondence with left and right foot portions of a peak position of the profile waveform.

16. (Currently amended) the method of determining a ~~line~~ convex pattern or a ~~space~~ concave pattern between adjacent line patterns on a sample according to claim 14, wherein widths of the ~~line~~ convex patterns and the ~~spaces~~ concave patterns between adjacent line patterns are substantially equal.

Claims 17-18. Canceled.

19. (Previously presented) The method of determining a line pattern or space between adjacent line patterns on a sample according to claim 12, wherein the adjustment of the position of the image is performed using a judgment result of line pattern or space for a pre-registered model image and the judgment result of line pattern or space between the line patterns from the judging step.

20. (Currently amended) the method of determining a ~~line~~ convex pattern or a ~~space~~ concave pattern between adjacent line patterns on a sample according to claim 14, wherein the adjustment of the position of the image is performed using a judgment result of ~~line~~ convex pattern or ~~space~~ concave pattern for a pre-registered model image and the judgment result of ~~line~~ convex pattern or ~~space~~ concave pattern between the line patterns from the judging step.